

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

R00007DE
Revision 3
Arrow Falcon Exporters Inc.
UH-1H

September 20, 2003

TYPE CERTIFICATE DATA SHEET NO. R00007DE

This data sheet, which is part of Type Certificate No. R00007DE, prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder: Arrow Falcon Exporters Inc.
2081 S. Wildcat Way
Porterville, California 93257

Prior TC Holder: Utah State University
Department of Industrial Technology and Education
Logan, UT84322-6000

1-Model UH-1H (Restricted Category Military Surplus Rotorcraft), Approved: August 25, 1997

Engine Lycoming T53-L-13B, T53-L-13BA

Fuel MIL-T-5624, Grade JP-4 (Jet B)
MIL-T-5624, Grade JP-5 (Jet A)
MIL-T-83133, Grade JP-8 (Jet A-1)
See U.S. Army TM55-1520-210-10 and Note 15 for emergency fuels

Engine Limits	Torque Pressure (PSI)	Output Horsepower (HP)	Output R.P.M.	Exhaust Gas Temp. (C)	Gas Gen Speed N1(%)
	50.0	1100	6600	610 to 625	101.5
	50.0	1100	6600	400 to 610	101.5

See Notes 11, 12, and 13. Refer to Operator's Manual TM55-1520-210-10 for additional limitation data.

Rotor Limits	<u>Power Off</u>	<u>Power On</u>
Maximum R.P.M.	339	324
Minimum R.P.M.	294	294

Continuous operation 294-324 R.P.M. / Maximum for auto-rotation 339 R.P.M.

Airspeed Limits Roof Mounted Pitot Static:

Never exceed 124 knots (143 mph) up to 7500 lbs. Gross Weight, sea level to 2000 feet.
Never exceed 113 knots (132 mph) up to 9500 lbs. Gross Weight sea level to 2000 feet.
Refer to TM55-1520-210-10, Chap. 5, Sect. V, for specific operating airspeed limitations.
See Note 2, for specific operation airspeed limitations.

Nose Mounted Pitot Static:

Never exceed 112 knots (128 mph) up to 7500 lbs. Gross Weight, sea level to 2000 feet.
Never exceed 103 knots (118 mph) up to 9500 lbs. Gross Weight, sea level to 2000 feet.
Refer to TM55-1520-210-10, Chap. 5, Sect. V for specific operating airspeed limitation. See Note 2, for specific operation airspeed limitations.

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C.G. Range	<p>Longitudinal C.G. Limits: (+130.0) to (+144.0)</p> <p>Lateral C.G. Limits: Plus or minus 5 inches</p> <p>Refer to U.S. Army TM55-1520-210-10, Chap. 6, Section VII, for specific C.G. range and limits.</p>
Empty Weight C.G. Range	(+130.0) to (+144.0)
Datum	Station 0, datum is 7.6 inches aft of the most forward point of the fuselage nose section. (See U.S. Army TM55-1520-210-10)
Leveling Means	Plumb line from top of cabin door frame to index plate on cabin floor. See Note 1
Maximum Weight	9500 lbs.
Minimum Crew	1 (Pilot)
No. of Seats	(See Note 22) See U.S. Army TM55-1520-210-10 for seats.
Maximum Baggage	100 lbs. Per Sq. Ft. of cargo area. (See U.S. Army TM55-1520-210-10)
Fuel Capacity	<p>208.5 U.S. gallons (+151.6) Crashworthy system.</p> <p>220 U.S. gallons (+151.6) Non-crashworthy system.</p>
Oil Capacity	3.25 gallons (+173.0)
Rotor Blade and Control Movements	For rigging information, refer to U.S. Army TM55-1520-210-23 (Maintenance Manual)
Eligible Serial No.	U.S. Military Surplus UH-1H Helicopters as identified in FAA approved Arrow Falcon Exporters Inc. Report AF-UH-1H-0100, dated 06-20-00 or later FAA approved revision. Current copy on file at the Los Angeles Aircraft Certification Office.
Certification Basis	<p>FAR 21.25(a)(2), effective February 1, 1965, including Amendments 21-1 through 21-74. Type Certificate No. R00007DE, for the special purpose of:</p> <p>External Load Operations under FAR 21.25(b)(7).</p> <p>Note: In accordance with FAR 36.1 (a)(4), compliance with the noise requirements was not shown. Therefore, aircraft certificated under this type certificate are only eligible for external load operations excepted by FAR 36.1(a)(4) and defined under FAR 133.1(b).</p> <p>Any alteration to the aircraft for Special Purposes not identified above require further FAA approval and in addition, may require noise and / or flight testing.</p> <p>General Note: Any subsequent modifications to the helicopters type certified under this Type Certificate are to have the certification basis for that modification established under 14 CFR 21.101 published June 7, 2000 which became effective June 10, 2003. Otherwise non-significant modifications are to meet the requirements of 14 CFR 29 airworthiness standards, transport category, Amendment 1, effective August 12, 1965, plus special conditions for turbine engine installations and 14 CFR 29.1529, Instructions for Continued Airworthiness, Amendment 20, effective September 11, 1980. Also should consider that military installed crashworthy fuel systems in some of these aircraft and should require that to be maintained.</p>
Production Basis	None. No helicopter may be produced under this approval. Prior to adding serial numbers to this Type Certificate, each candidate helicopter must undergo a conformity inspection. The conformity inspection will be conducted in accordance with a Type Inspection Authorization, Part 1, or request for conformity that will include as a minimum, the inspections contained in the FAA Rotorcraft Directorate Restricted Category conformity document dated September 25, 2001 or later FAA approved revisions.

Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be in each helicopter for certification. The following equipment and documents must be available in each helicopter for certification:

(1) U.S. Army TM55-1520-210-10, Operators Manual, UH-1H.

(2) Standard U.S. Army cargo suspension system installation, 204-070-900-5, 204-070-900-19 IAW TM55-1520-210-23P (Part Manual), installed and maintained IAW TM55-1520-210-23 (Maintenance Manual), and operated IAW TM55-1520-210-10 (Operators Manual) for all external cargo operations.

NOTE 1

A current weight and balance report including a list of equipment included in the certificated empty weight, and loading instructions, when necessary must be provided for each aircraft at the time of the original certification. Refer to Operators Manual, TM55-1520-210-10, Chapter 6 and Maintenance Manual, TM55-1520-210-23 Para. 1-38, for leveling means and weight and balance determination.

NOTE 2

The following placards must be prominently displayed in the cabin in clear view of the pilot:

Placard No. 1:

CALIBRATED AIRSPEED-KNOTS

With Roof Mounted Pitot Static

LIMITS	AIRCRAFT WT/KIAS		
	GROSS WEIGHT		
Density Alt. (Ft)	To 7500#	8500#	9500#
SL to 2000	124	118	113
3000	121	115	110
6000	112	106	101
9000	103	97	92
12000	94	88	92
15000	82	76	83
18000	70	-	-

UNDER 7500 LBS. GW USE 6000 TO 6600 RPM RANGE

OVER 7500 LBS GW USE 6400 TO 6600 RPM RANGE

POWER OFF 294 TO 339 ROTOR RPM

REDUCE SPEED WHEN VIBRATION IS EXCESSIVE

CALIBRATED AIRSPEED – KNOTS

With nose mounted pitot static

LIMITS	AIRCRAFT WT/KIAS		
	GROSS WEIGHT		
Density Alt. (Ft)	To 7500#	8500#	9500#
SL to 2000	112	107	103
3000	109	104	100
6000	100	95	91
9000	91	86	82
12000	82	77	73
15000	70	65	-
18000	58	-	-

UNDER 7500 LBS GW USE 6000 TO 6600 RPM RANGE

OVER 7500 LBS GW USE 6400 TO 6600 RPM RANGE

POWER OFF 294 TO 339 ROTOR RPM

DECREASE AIRSPEED IF VIBRATION IS EXCESSIVE

NOTE 2 (cont'd)

Placard No. 2:

External load operations: Vne will be determined for each proposed external load application

Placard No. 3:

This rotor craft must be operated in accordance with the restricted category operating limitations of FAR 91.313.

Placard No. 4

This helicopter must be operated in compliance with the operating limitations specified in the approved helicopter Operators Manual. Refer to TM55-1520-210-10, chapter 5 for operating limits and restrictions.

NOTE 3

The helicopter(s) must be serviced, maintained, inspected and overhauled in accordance with the documents specified in Arrow Falcon Exporters Inc. Instructions for Continued Airworthiness Report AF-UH-1H-01CA, date 06-20-00 (or later FAA accepted revision) or other FAA accepted inspection programs. The TC holders Instructions for Continued Airworthiness Report is part of the TC holders Instructions for Continued Airworthiness.

NOTE 4

Prior to obtaining an original Airworthiness Certificate:

- A. Each helicopter must pass a conformity inspection in accordance with this TCDS and Arrow Falcon Exporters Inc. Report No. AF-UH-1H-01CR, dated 06-20-00, (or current revision).
- B. The maintenance, overhaul and modification records of each helicopter must be reviewed for military changes that may effect the airworthiness of the helicopter.
- C. After the required inspections, the aircraft must be found to be in a good state of preservation, repair and in a condition for safe operation.

NOTE 5

This aircraft is prohibited from carrying cargo for compensation or hire. Carriage of cargo is limited to such cargo that is incidental to the aircraft owners/operator's business which is other than air transportation.

NOTE 6

The cargo suspension assembly (cargo external load hook and release system) shall be installed, tested and maintained in accordance with TM55-1520-210-23-2 Chapter 14, paragraph 14-260.

NOTE 7

Restricted category aircraft may not be operated in a foreign country without express written approval of that country.

NOTE 8

This aircraft has not been shown to meet the requirements of the applicable comprehensive and detailed Airworthiness Code as provided by Annex 8 to the Convention on International Civil Aviation.

NOTE 9

Engine changes are allowed provided the replacement engine is of the same make and model as identified in this TCDS. The replacement engine must have proper military records and have the applicable FAA Airworthiness inspections accomplished.

NOTE 10

The Airworthiness Directives for the helicopter and engine contained in Arrow Falcon Exporters Inc. Airworthiness Directive Report AF-UH-1H-01AD dated 06-20-00 (or later FAA approved Revision), must be complied with prior to original certification.
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NOTE 11

Torque pressure output by the engine torque sensing system varies with individual engines. The calibration of this value is required on each engine and the value corresponding to take-off power is stamped on the engine data plate.

- NOTE 12 Gas producer speeds as shown under “Engine Limits” are maximum permissible speeds. The gas producer speed for rated power varies with individual engines and must be determined during engine calibration and stamped on the engine data plate. The rated gas producer speed shown on the temperature limit placard installed on the instrument panel must correspond to the engine data plate gas producer speed. Gas producer speed limits also vary with OAT in accordance with the schedule as shown on the Temperature Limits (GO-NO-GO TAKE-OFF) placard on the instrument panel or Health Indicator Test (HIT) results, as applicable.
- NOTE 13 Maximum permissible exhaust gas temperature varies with ambient temperature as described in the Operator’s Manual. Check engine EGT by use of Health Indicator Test (HIT) prior to take-off (see U.S. Army TM55-1520-210-10 and HIT EGT Log for the aircraft).
- NOTE 14 This approval applies to Basic Military Surplus Bell Model UH-1H helicopters with no modifications except as required by Arrow Falcon Exporters Inc. Report AF-UH-1H-0100, dated 06-20-00, (or later FAA Approved revision).
- NOTE 15 Alternate or emergency fuels are listed in U.S. Army TM55-1520-210-10, Chapter 2, Para. 2-89 and table 2-1. Some limitations apply for the use of certain alternate and emergency fuels, These limitations are listed in this section.
- NOTE 16 Bell Helicopters Textron, Inc. has no involvement with this Type Certificate.
- NOTE 17 Any alteration to the type design of this aircraft may require Instructions for Continued Airworthiness. These instructions must be submitted to and accepted by the FTW-AEG, Aircraft Evaluation Group Office prior to approval for return to service.
- NOTE 18 This aircraft is prohibited from carrying cargo for compensation or hire. Carriage of cargo is limited to such cargo that is incidental to the aircraft owners/operator’s business which is other than air transportation.
- NOTE 19 Restricted category aircraft may not be operated in a foreign country without express written approval of that country.
- NOTE 20 This aircraft has not been shown to meet the requirements of the applicable comprehensive and detailed Airworthiness Code as provided by Annex 8 to the Convention on International Civil Aviation.
- NOTE 21 Any alteration to the type design of this aircraft may require Instructions For Continued Airworthiness. These instructions must be submitted to and accepted by the FTW-AEG, Aircraft Evaluation Group Office prior to approval for return to service.
- NOTE 22 No Person may be carried in this helicopter during flight unless that person is essential to the purpose of the flight.

END